

PRESENT-DAY DIETS IN THE UNITED STATES

by Hazel K. Stiebeling and Callie Mae Coons¹

WHAT are the food habits of the people of the United States? How far do they conform to what is known of good nutrition? What proportion of the families in this country are well nourished, passably nourished, and poorly nourished? Does everyone get as good a diet as he might for his money? In this article, old and new data are examined to answer these and other questions.

IT IS NOW POSSIBLE to say with a fair degree of accuracy what nutritive elements people should have if they are to gain and maintain the best health possible for them as individuals. Thanks to many years of patient research by such men as Sherman at Columbia, McCollum at Johns Hopkins, Mendel at Yale, Atwater of the United States Department of Agriculture, and a host of others in this country and abroad, there is now considerable evidence as to how much of each nutrient a diet should supply and how much can be contributed by each of the many kinds of American food materials.

Hence it is not the insurmountable task that it might appear at first glance to compare meals superficially as different as those of a family whose forebears arrived on the Mayflower and those of a family from the Orient. The family of a laborer making \$500 a year might never see many of the foods served regularly at the table of a corporation president with an income of \$100,000. Yet in both instances the foods comprising the diets can be classed into the same dozen or so food groups, and the food values can be translated into the same nutritional terms.

It is vital to know the kinds and quantities of food people eat. Careful analyses can then show whether diets have nutritional shortcomings, and recommendations for improvement can be made, taking food preferences and incomes into account. This is important not only for individuals and families, but for communities and even for nations. It takes a surprising amount of work collecting facts and compiling figures to find out what the dietary habits of even a com-

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paratively small segment of a population really are, but such work must be done if there are to be any accurate pictures of food needs on which to base efforts at dietary improvement.

This article will deal with food-consumption habits in the United States, considering farm families first, then city and village families, and pointing out various factors that influence the diets of each group. It will draw on scattered data collected over many years, including much unpublished material obtained in a recent study of consumption in relation to income, made by the Bureau of Home Economics in cooperation with other Federal agencies. This study is one of the broadest and most complete, as well as the most recent, made in the United States.

DIETS OF FARM FAMILIES

Most farm families differ from city families in that they not only buy food but produce it for themselves (fig. 1). They count heavily on the garden, the orchard, the poultry flock, the cow, and the meat animals. Food produced on the farm may represent less than half or more than three-fourths of the total money value of the food supply for the family. The amount of food produced varies with the economic status of the family, the size of the farm, the type-of-farming area—including climate and soil—the amount of capital and labor that can be invested in production for home use, and the family's attitude toward home production.

Some people insist that food production for family use is not worth the effort unless the farmer is willing to accept the mere joy of the work as compensation. Others are just as sure that no other acre of land and no equal amount of effort spent in commercial farming have a money-earning value equal to the money-sparing value of farm-furnished food. Few appreciate fully the contributions of farm-furnished food to the family diet—nutritive values worth more than the amount of money involved and not ordinarily purchased even when there is plenty of money. If, as studies indicate, relatively more farm families than city and village families have diets that can be rated as good, this must be attributed to the use of home-produced food. But even with extensive programs of production for home use, expenditure for food still tends to be the largest cash outlay for farm-family living. Usually as much as 20 percent and often more than 30 percent of the cash spent for all family needs goes for food.

How much do farm families actually produce for home use? According to estimates of the Bureau of Agricultural Economics (1157),² farm families in 1938 produced some \$1,250,000,000 worth of food and fuel (valued at farm prices) for home consumption. On the whole, 1938 was a good year for gardens and orchards and for feed crops for poultry, dairy cows, and meat animals. Considerably more food was reserved for home consumption than in 1937, although its money value was lower because of lower prices. But a decline in market values does not diminish the use-value of these goods.

A comparison of the amount and kind of food furnished in 1935–36 by farms in selected type-of-farming areas is shown in table 7 in the

² Italic numbers in parentheses refer to Literature Cited, p. 1075.



Figure 1.—Why farm families have better diets than city families. They produce part of their own food supply.

appendix (p. 316). These figures ³ refer only to families of nonrelief native-born farm operators. Families on relief, foreign-born, Negroes (except in the Southeast) and other colored races, broken families, families on farms where they had not lived for a year, and sharecroppers and farm laborers were excluded from this study. The reader should keep in mind that the exclusion of these classes of farm families tended to eliminate many of those with the lowest incomes. In addition, the areas chosen as being well adapted to a specific type of farming (as cotton or wheat) often were not typical of the State as a whole but represented better farm land than the average.

Milk appears to be most freely consumed on farms in those counties noted for milk production and in areas where little milk goes to commercial markets and the families tend to consume most of that produced. Many eggs and chickens are used in the Grain Belt, much pork in the Corn Belt, and other meat in the grazing area. A considerable quantity of potatoes are grown for home use in the North, and gardens and orchards are possible in most parts of the country. In some sections, however, notably the Great Plains, climatic conditions interfere with the success of gardens and orchards often enough to discourage plantings. In the Southeast, the amounts of sorghum, field beans and peas, and corn for family use add up to sizable proportions. The fruit and nut section of southern California represents a highly specialized type of agriculture, and families there enjoy comparatively high incomes and more urbanized ways of living than are found in most rural areas of the United States. The effect is seen in the very limited amount of food produced for home use in that section.

In most areas the cash-sparing value of home food production is generally acknowledged. For families consisting of husband, wife, and one child under 16 years of age, living in general farming areas of Pennsylvania and Ohio, and having an average of \$630 a year to spend for family living, the general relationship between expenditures for food and the money value of farm-furnished food is shown in figure 2.

The money expenditures for food by these families dropped steadily with increasing volume of home production until a minimum of about \$160 a year was reached. This minimum represents the expenditures for articles which could not be furnished by the farm or which, in the families' judgment, it did not pay to produce. Had no food been home-produced, it seems likely from the data at hand that these families would have spent about \$265 a year for food.

The difference, about \$105, between this estimated maximum expenditure for food and the average minimum does not, of course, represent clear cash gain. Time, energy, and land as well as money must be invested in producing food for family consumption. But when families have only \$630 at their disposal for all of their living expenses, they can command many more goods and services that cannot be home-produced if they are able to obtain their food for a direct cash outlay of only \$160 rather than \$265 a year. The saving represents about 40 percent of the possible food bill and about 17 percent of the total cash spent for living.

The benefits of a suitable program of food production for family use are not confined to cash sparing, however. They also include the

³ Unpublished data, Bureau of Home Economics, Consumer Purchases Study.

health-conserving values of nutritionally adequate diets. The lower a family's money income, the more its well-being depends upon these farm-furnished supplies. Home production tends to improve diets because it helps even families with very low incomes to obtain generous supplies of eggs, milk, butter, and green-colored vegetables—foods so important for their mineral elements and vitamins that they are often called protective foods. The diets of urban families buying all of their food are frequently deficient in these protective foods because they are relatively expensive in city markets. Not only do these foods take

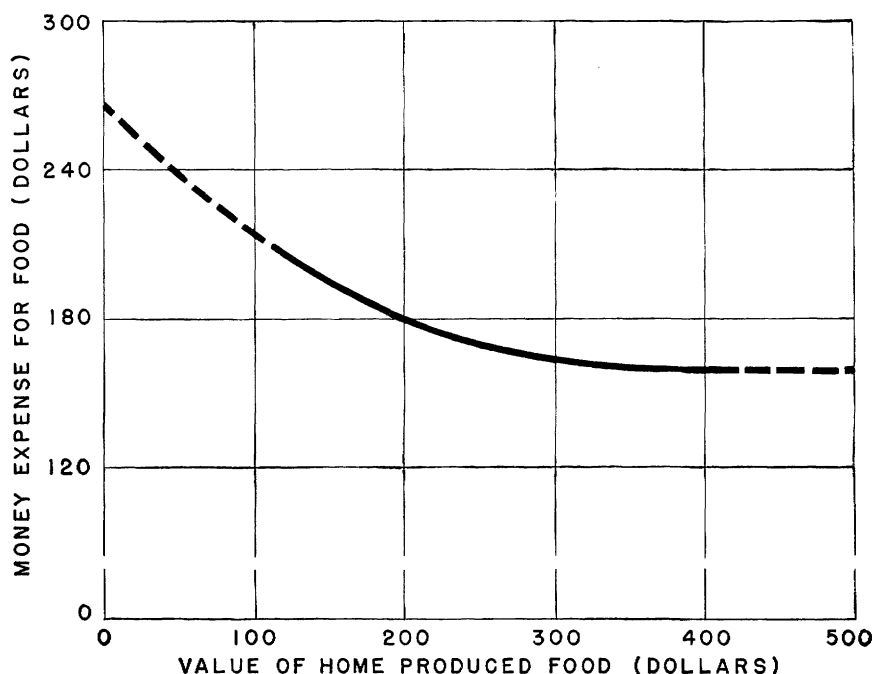


Figure 2.—The more food the farm produces for home use, the less cash the family spends on groceries. Preliminary data based on reports for 1935-36 of 84 nonrelief families of husband and wife (both native-born) with one child under 16 years of age, living in general farming areas of Pennsylvania and Ohio, and having an average of \$630 a year for family living expenses.

much time and effort on the part of farmers to produce, but being perishable, they are costly to transport from farm to market.

Since farm families tend to increase the volume of food produced for home use more rapidly than they reduce the amounts spent for food, there is a much better chance that they will get satisfactory diets as programs of food production are enlarged and geared to family needs. Scarcely half of the three-person families just described could have bought even fair diets,⁴ nutritionally speaking, if they had spent as little as \$265 for food and produced none for family use. On the other hand, probably as many as 7 out of 10 obtained fair or good diets when they produced \$150 to \$250 worth of food in addition to

⁴See p. 310 for the definition of a fair diet.

what they bought. It is likely that about 9 out of 10 of those families that produced as much as \$350 worth of food in addition to what they bought obtained fair or good diets.

The money value of the food consumed usually is greater, and at each income level represents a somewhat larger share of the net income (money and nonmoney), with farm families than with families living in urban or village communities. Farm-family food consumption is large because the heavy outdoor labor of farm workers means high food-energy requirements. As a rule, too, farm families include more members than those of city dwellers.

Diets tend to show more variation from season to season on the farm than in urban centers. Even with extensive canning and storage programs some foods are more plentiful in the country at some periods than at others.

With rising income, quantities of each of the various types of food in the diet tend to become more generous, but the increases are more pronounced for some foods than for others. This is illustrated in table 8 (p. 316), which shows the quantities of food available to families of white nonrelief farm operators during the summer months, for four income classes, in two parts of the country. In the Northeast, families with the higher incomes consumed much larger quantities of cheese, meats, fresh vegetables, and canned fruits. In the Southeast, families with higher incomes consumed larger quantities of eggs, cheese, and meat than those with lower incomes. Farm supplies of these foods tend to be low during the summer months, and only families with higher incomes can purchase them in considerable quantity.

There are also certain regional differences in food supplies. Farm families in the Northeast tend to use more eggs, especially at the lower income levels, than do those in the Southeast. They also consume more cheese, cream, and ice cream, but less fluid milk. Perhaps fewer of the southern families produce milk for sale, and so more is consumed when it is available. Families in the Northeast tend to use less fat but more sugar; less flour and other grain products, but more potatoes; fewer fruits and vegetables in the fresh state, but more in canned form than do farm families in the Southeast.

How adequate are the diets reported by these families of three or four persons? How do they compare with recommendations for good diets?

A good diet may well include an egg a person a day. For three- to four-member families this would mean an average of about 2 dozen a week. Families in the Northeast reported this many eggs or more, but those in the Southeast had somewhat fewer. A quart of milk for each child and a pint for each adult would amount to an average of 17.5 quarts weekly. This amount or more of fluid milk was reported by families in the Southeast. Families in the Northeast had the equivalent of this amount in the form of milk, cheese, cream, and ice cream.

Fully adequate diets for families of this size probably should include also at least 40 pounds of potatoes, other vegetables, and fruit a week. Even in the summer months the diets of families with incomes under \$1,000 a year (money and nonmoney) scarcely included

this quantity. Since more than 60 percent of the families of non-relief farm operators in the Southeast and more than 40 percent of those in the Northeast had incomes (money and nonmoney) below \$1,000 in 1935-36, according to estimates of the National Resources Committee (1160), it would appear that a large proportion of farm-family diets are poorly supplied with fruits and vegetables. In consequence, many farm families consume too little vitamin C to support optimal nutrition.

Of the money spent by farm families for food, the smallest share goes for milk and cheese and the largest for bread, flour, and cereals. But all of the major food groups are represented in cash expenditures. The proportion spent for different groups varies with the extent of the home-production program, but those that produce less have to spend considerably more of their cash for meat and eggs, fruits and vegetables. The following tabulation shows about how each food dollar is spent by families who have to purchase less than one-fourth of their food, and by families who have to purchase more than one-fourth:

	Less than one-fourth purchased	More than one-fourth purchased
Bread, flour, cereals.....	\$0. 33	\$0. 27
Sugars.....	. 18	. 13
Fats.....	. 15	. 15
Coffee, tea, seasonings.....	. 13	. 10
Meat, eggs.....	. 09	. 15
Fruits, vegetables.....	. 09	. 18
Milk, cheese.....	. 03	. 02
Total.....	1. 00	1. 00

Few farm families have enough cash to buy adequate diets without producing some food at home. To get the most out of home production, the farm family would do well to find out by some careful figuring how much of each of the several kinds of foods are required to furnish a fully adequate diet. After such estimates are made, the family can decide how much and what to buy, how much and what to undertake to raise, and what and how much to can and store for out-of-season consumption. The answers will depend on many factors, but careful consideration should be given not only to cash savings but also to maintaining a high dietary level.

The last few years have seen a definite trend toward better planning on the part of the farm family to meet its food needs. The Extension Service has given this program special emphasis since 1930. The Farm Security Administration places the home-production program at the center of the home-and-farm-management plan which is basic to its program of loans and emergency grants. The Farm Credit Administration likewise encourages its borrowers to produce the major part of their food supply.

DIETS OF CITY AND VILLAGE FAMILIES

The food purchases of a city or village family depend largely on two things—the size of the income and the number in the family. At each income level there seems to be a rather striking uniformity in the ideas of families the country over as to what percentage of

their incomes should go for food. As table 1 shows, families of wage-earning groups in villages in different parts of the country allotted an average of about 40 percent of their living expenses to food when incomes were under \$500 and about 30 percent when incomes were approximately \$2,000.⁵

TABLE 1.—*Food expenditures: Average proportion of expenditures for family¹ living allocated to food, villages, 1935-36²*

Income class (dollars)	New Eng- land ³	North Cen- tral ⁴	Pacific coast ⁵	South- east ⁶	Income class (dollars)	New Eng- land ³	North Cen- tral ⁴	Pacific coast ⁵	South- east ⁶
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>		<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
250-499-----	39	42	39	41	1,250-1,499-----	35	36	34	33
500-749-----	38	40	40	38	1,500-1,749-----	34	34	31	32
750-999-----	40	40	38	38	1,750-1,999-----	35	31	31	30
1,000-1,249-----	38	37	35	34	2,000-2,499-----	33	31	30	28

¹ White nonrelief families of wage earners, including husband and wife, both native-born, and 0 to 8 other persons.

² From preliminary unpublished data, Bureau of Home Economics, Consumer Purchases Study.

³ 14 villages in Vermont and Massachusetts.

⁴ 46 villages in Pennsylvania, Ohio, Michigan, Wisconsin, Illinois, and Iowa.

⁵ 24 villages in Washington, Oregon, and California.

⁶ 33 villages in North Carolina, South Carolina, Georgia, and Mississippi.

At any one income level, the proportion spent for food by large families is higher than that spent by small. Thus city families of two in the \$750-\$999 income class may use 35 percent of their living expenses for food; families of three or four, 38 percent; and families of five or six, 44 percent.

But though the larger family spends more for food, it seldom spends enough more to maintain the same level per person. For example, table 2, covering small North Central cities in 1935-36, shows that families of two persons with an income of \$500 to \$749 could afford meals costing about 11 cents a person.⁶ When there were four in the family, it took an income of \$1,250 to \$1,499 to afford approximately 11-cent meals; and with five or six in the family, an income of \$2,000 to \$2,249.

Though some economies are possible in the purchasing of food for the larger-sized family as well as in the management of food preparation, these seldom compensate for the reduction commonly observed in expenditures per consumption unit. This may be seen from a study of table 9 (p. 317), which compares the quantities of food purchased by families of two persons (husband and wife only) with those of families of three or four persons (husband, wife, and one or two children under 16 years of age) in each of four income classes.

A city or village family with one or two young children bought only one or two more eggs a week than the childless couple with the

⁵ Unpublished data, Bureau of Home Economics, Consumer Purchases Study.

⁶ On a "food-expenditure unit" basis. This unit is equivalent to the expenditure for food for a moderately active man. In comparing the food expenditures of families of different sizes, it is desirable to determine the number of food-expenditure units to which the family is equivalent, i. e., the number of moderately active men that probably could be equally well fed for the same sum as the family group. Expenditures for the food of teen-age children may be 10 percent more than for a moderately active man; for that of other school children and of moderately active women, 10 percent less; and for that of infants and preschool children, from one-half to two-thirds as much. The family's total expenditure for food is then divided by this number of food-expenditure units. The result is the expenditure per food-expenditure unit. When dealing with large groups of families, this corresponds fairly closely with the expenditure per person but it makes possible more accurate comparisons between different families.

same income. The family with children bought only about a pint of milk more each day, and usually less than a pound more of meat weekly. But they bought 2 to 3 more pounds of cereals and flour (or its equivalent in bread) each week, and from 2 to 5 pounds more of potatoes. In the case of fresh vegetables the larger families had from 0.1 to 2.5 pounds more per week than the small families, and in the case of fresh fruits, from 0.2 to 5.6 pounds more.

TABLE 2.—*Food expenditures: Average amounts spent per food-expenditure unit per meal by families¹ of different size and income, small North Central cities, 1935-36²*

Income class (dollars)	Expenditures per meal per food-expenditure unit ³ by families of—			Income class (dollars)	Expenditures per meal per food-expenditure unit ³ by families of—		
	2 persons ⁴	4 persons ⁵	5 or 6 persons ⁶		2 persons ⁴	4 persons ⁵	5 or 6 persons ⁶
	Cents	Cents	Cents		Cents	Cents	Cents
250-499.....	8.4	5.9		1,750-1,999.....	17.8	12.8	10.5
500-749.....	11.3	7.9	5.0	2,000-2,249.....	18.6	12.7	10.8
750-999.....	13.0	8.8	7.0	2,250-2,499.....	21.0	13.6	10.6
1,000-1,249.....	15.8	10.3	7.8	2,500-2,999.....	20.7	15.3	10.9
1,250-1,499.....	15.7	11.4	9.1	3,000-3,999.....	22.3	13.5	12.3
1,500-1,749.....	17.3	11.8	9.8	4,000-4,999.....	19.8	12.7	15.6

¹ White nonrelief families including husband and wife, both native-born.

² From preliminary unpublished data, Bureau of Home Economics, Consumer Purchases Study.

³ See footnote 6, p. 303.

⁴ Husband, wife, and no others.

⁵ Husband, wife, and 2 children under 16 years of age.

⁶ Husband, wife, 1 child under 16 years, 1 person 16 or over, and 1 or 2 other persons.

Thus the larger families tend to buy proportionally more grain products and potatoes but proportionally smaller quantities of eggs, milk, and fresh vegetables and fruits. As a result, in each income class the diets of the larger families were relatively less well fortified by protective foods and hence less satisfactory from the standpoint of nutrition than were the diets of the smaller families.

Diets of city and village families, like those of farm families, are more generous at higher than at lower income levels, particularly with respect to eggs, milk, meats, fresh vegetables, and fresh and canned fruits. The differences in food consumption of different family groups are more clearly brought out when families are classified by their expenditures for food per unit⁷ or per person than when classified by income. The effect of the competition between food and other items for a place in the family budget is eliminated as a variable.

Table 10 (p. 318), based on a recent study of diets of employed city workers (1104), shows that families who spend comparatively little for the food of each person buy about as many potatoes, as much of cheaper fats, and as much of flour, cereals, and other grain products for each family member as do those with high food expenditures. But families with more to spend for food buy larger quantities of milk, butter, eggs, meat, fruits, and succulent vegetables, and usually increasingly expensive forms of these foods.

Thus, families in North Atlantic cities spending as little as \$1.60 a person a week for food and those spending as much as \$4 a person a

⁷ See footnote 6, p. 303.

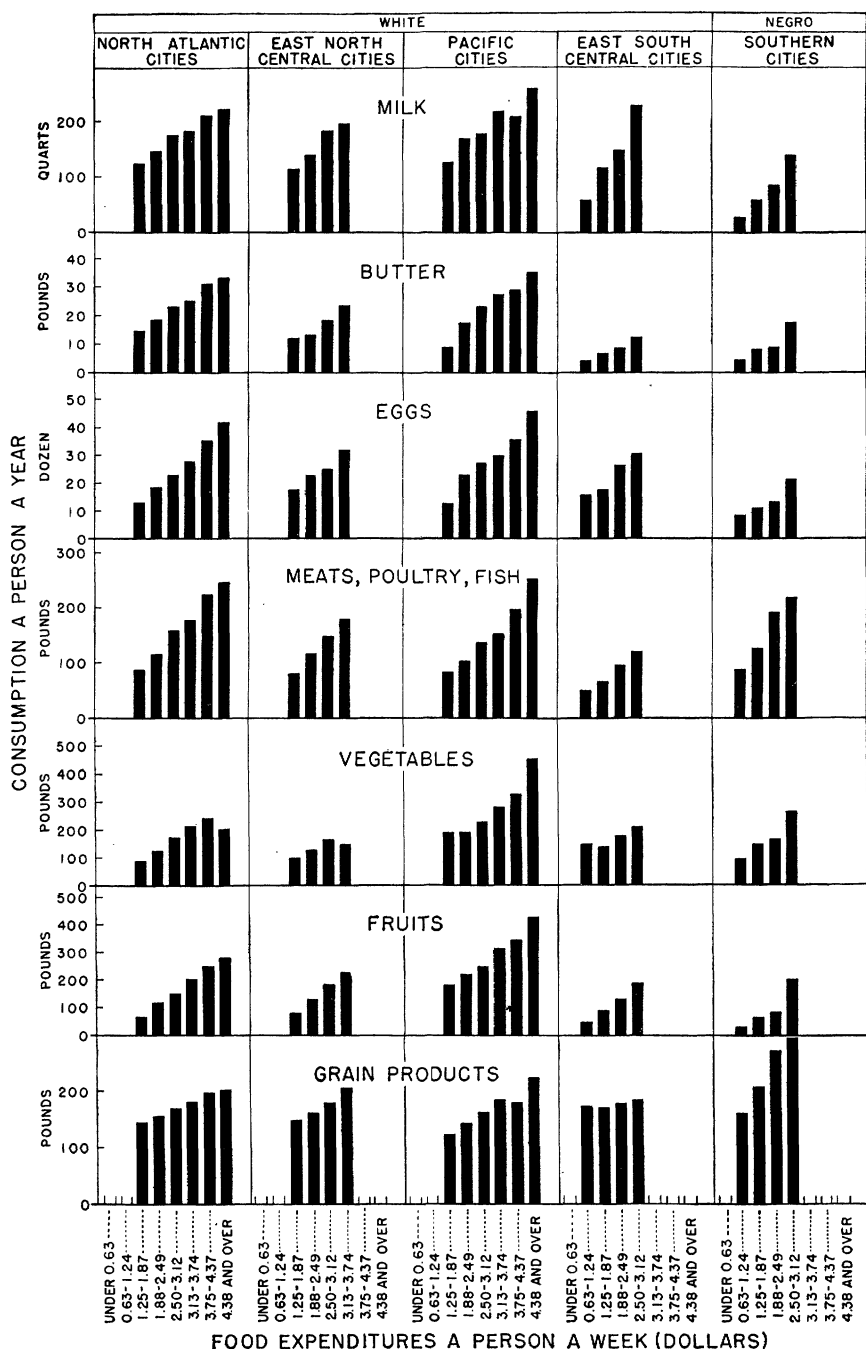


Figure 3.—In the cities, those spending more for food buy more food of practically all kinds. This chart shows the consumption of specified foods by families of employed city workers spending different amounts for food, 1934-37.

week bought approximately the following quantities of certain items for each person:

	\$1.60 a week for food	\$4 a week for food
Milk, fresh.....pints.....	4	6
Butter.....pound.....	$\frac{1}{4}$	$\frac{1}{2}$
Eggs.....number.....	3	8
Meat, poultry, fish.....pounds.....	2	4
Fresh vegetables and fruits.....do.....	3	10

At the higher food-expenditure level the average per capita purchases of citrus fruit were five times as large as those at the lower level. For other fruits and for leafy, green, and yellow vegetables they were about three times as large. Increases were also sharp in purchases of pork, lamb, poultry, and cream. Purchases of potatoes, sugar, and grain products were only one-third to one-half larger at the higher level of food expenditure.

Figure 3 summarizes for different parts of the country what city families of employed workers buy when they have increasing amounts of money for food. Almost without exception, the purchases of all foods increase, but those of some foods, such as eggs, meat, and fruits, go up more rapidly than others. In the South, milk consumption increases unusually rapidly as the level of food expenditure rises.

When city families have about the same amounts to spend for the food of each person there seem to be few regional differences in the purchases of major groups of food. Vegetable and fruit consumption tends to be high in Pacific coast cities and low in the Southeast. Probably characteristic of southern Negro families is the low consumption of milk and butter and the high consumption of pork, poultry, and fish and of grain products.

The average per capita purchases of food by families of employed workers in cities of different regions are given in table 11 (p. 319). But many differences in food consumption commonly considered regional are merely reflections of differences in economic status. The middle half of these families spent the following amounts a person a week for food (figures adjusted to a 1935 base):

White:	
North Atlantic.....	\$2.15-\$3.50
East North Central.....	2.10- 3.35
East South Central.....	1.60- 2.75
Pacific.....	2.25- 3.60
Negro: South.....	1.05- 2.15

Computations based on table 11 show that workers' families⁸ in Pacific cities—half of whom had between \$2.25 and \$3.60 a person a week for food—used about six eggs a person a week, while the low-income southern Negro families, with \$1.05 to \$2.15 a person a week for food, had an average of only about two eggs a person a week.

In the purchase of milk also, Pacific families were highest, but even these averaged only about a pint a person a day. White families in the Southeast had an average of only three-fourths of a pint a day, Negro families scarcely a quart a week. These variations also reflect

⁸ This study (1104) included only nonrelief families with yearly incomes of \$500 and over, in which the chief earner had had at least a certain minimum of employment. In Pacific coast cities and among Negro families in southern cities those willing to keep food records are believed to be above average in economic status for this population group and the southern white families, below average.

differences in level of food expenditure to some extent. Half of the families studied in Pacific coast cities were spending \$2.85 or more a person a week for food. In the Southeast, half of the white families studied were spending less than \$2.10 a person a week, and half of the Negro families less than \$1.55. Southern white families bought as much milk as white families in other regions when they had comparable amounts to spend for food, though Negro families did not. Low milk consumption seems to be traditional among southern Negro families.

These figures on milk consumption include not only milk purchased in fluid form, but also that purchased as evaporated or dried milk or as cheese. About one-fourth of the total fluid milk used by southern white families and more than one-half of that used by Negroes was in the form of skim milk and buttermilk.

Marked differences were shown in the consumption of butter and other fats. North Atlantic families purchased the least amount of fats and fatty foods, but they, with Pacific families, were the largest consumers of butter. Negro families used the most fat, largely in the form of lard, bacon, and salt pork—two to four times as much as families in other regions. By region the average quantities consumed by city workers' families per person per year were as follows:

Butter:	<i>Pounds</i>	Other fats, oils, and fatty foods:	<i>Pounds</i>
Pacific.....	22	North Atlantic.....	11
North Atlantic.....	21	Pacific.....	17
Southeast, white.....	8	Southeast, white.....	41
Southern Negro.....	7	Southern Negro.....	58

Less striking were differences in the consumption of meat, poultry, and fish. North Atlantic families purchased an average of 139 pounds a person a year, and southern white families only two-thirds as much—83 pounds a person a year. Consumption of beef and lamb was higher in the North and West than in the South. Southern Negro families used nearly twice as much fish as any other group.

The figures for sugar represent only the quantities purchased as such and do not include the amounts consumed in commercially prepared foods—baked goods, canned fruit, and bottled or other drinks. These figures, therefore, do not compare the actual quantities of sugar consumed in different parts of the country.

In the consumption of cereals, meals, and flour (or its equivalent in baked goods) Negro families in southern cities were highest with an average of 196 pounds a person a year, and Pacific coast families lowest with 160 pounds. In the North and West a large proportion was purchased in the form of bread, rolls, and other ready-to-eat goods made largely from wheat flour. In the Southeast, flour and meal for hot biscuits, corn pone, and other quick breads apparently were preferred to commercially baked bread and other products. White families in this part of the country bought two to three times as much flour and corn meal as those in other regions. Negro families were by far the largest purchasers of hominy and rice.

Potatoes and sweetpotatoes together were used in largest quantities by families of the North Atlantic cities, 157 pounds a person a year, and in smallest quantities by Negro families in southern cities, 91 pounds a year. In the North and West potatoes were used chiefly,

but in the southern dietary sweetpotatoes were more prominent. This varying proportion affects the vitamin content of the diet. Potatoes contribute outstandingly to the vitamin C and sweetpotatoes to the vitamin A value.

Tomatoes and citrus fruit, important for vitamin C, were used most freely in the Pacific coast cities, and least by Negro families in the Southeast. Families in Pacific cities consumed two to three times as much citrus fruit as white families in other regions.

The purchases of succulent vegetables (vegetables other than potatoes and mature beans and peas) were almost twice as great among Pacific families as among southern Negro families. Leafy, green, and yellow vegetables are important among these foods because of their high mineral and vitamin content. Families in Pacific cities consumed by far the largest quantities of the green, leafy, and yellow vegetables of any group studied and those in East North Central cities the least. The average consumption by the two groups was 122 and 60 pounds a person a year, respectively. The average for Negro families in the South was about 91 pounds a person a year.

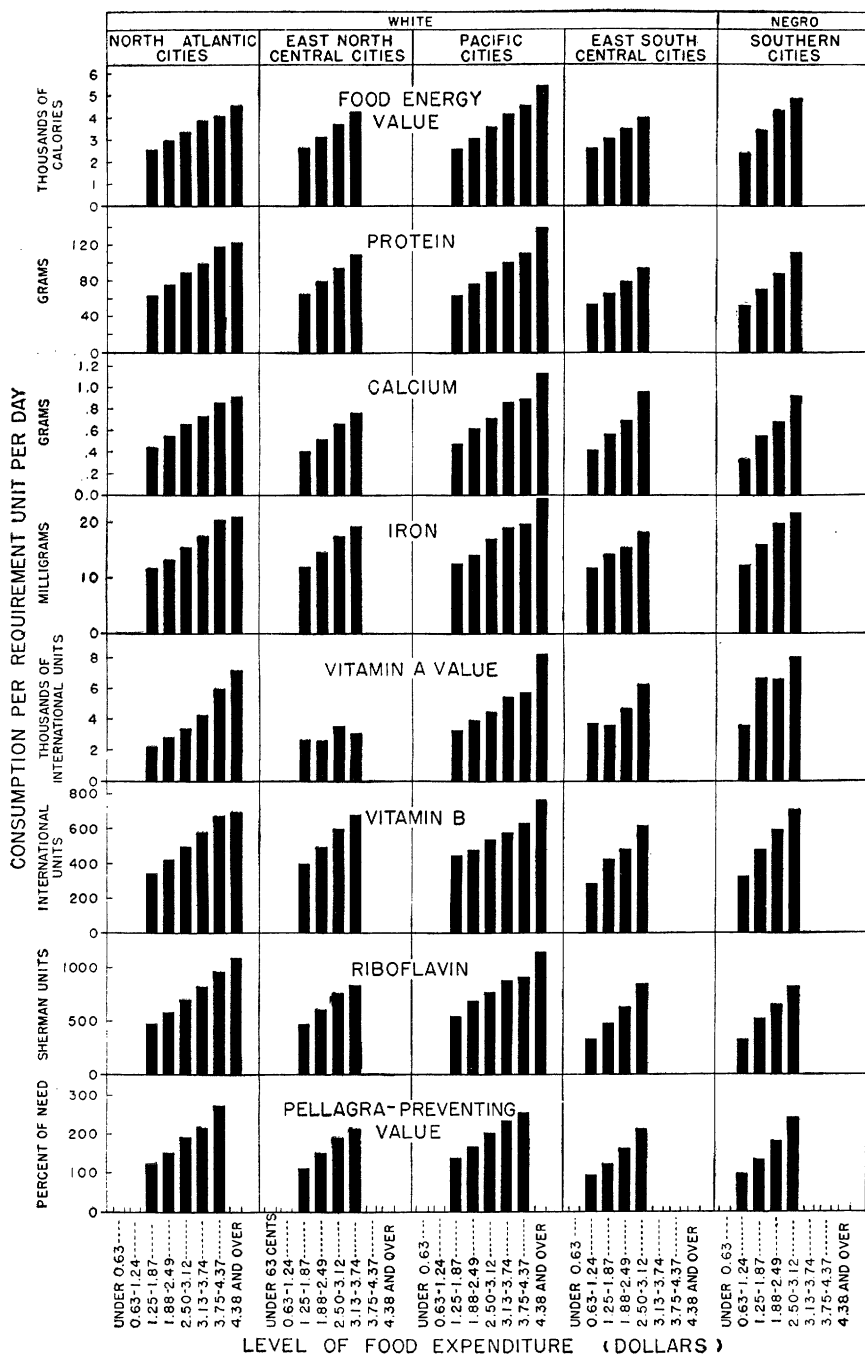
In consumption of fresh and canned fruit, as in the case of fresh and canned succulent vegetables, the Pacific coast families ranked first, and southern Negro families at the foot of the list. Of the fruits, apples, oranges, and bananas were most largely used. The Pacific city families bought more peaches and grapes than did families in other regions. Southern families, particularly Negroes, depended largely upon their local supplies of fruit, especially on watermelons. In fact, the Negro families studied in the South had meager quantities, 5 pounds or less a person a year, of any one fresh fruit except watermelons.

NUTRITIVE VALUE AND ADEQUACY OF DIETS

An estimate of the nutritive value of diets can be made by applying average figures on food composition to the quantities of food consumed. The reader should keep in mind, however, that the figures on the nutritive value of many foods are tentative and subject to revision, especially in the case of minerals and vitamins. Recent work (1939) suggests that the estimates given in this article for vitamin A value of diets may be too low. The figures were based on data available prior to 1937.

Figure 4 gives a graphic picture of the nutritive value of diets at different levels of expenditure in different regions. It shows nutritive values of food purchased by families of employed city workers (1104) representing five color-regional groups and several different levels of expenditure. These average figures on nutritive content tend to be high, however, inasmuch as they refer to food brought into the kitchen and take no account of the edible food waste, which probably increases with prosperity, or of the losses of nutrients in food preparation. Only average quantities of inedible refuse were deducted.

Figure 4.—In general, the higher the level of food expenditure, the better the diet. This chart shows the nutritive value per nutrition-requirement unit—equivalent to the allowance for a moderately active man weighing 154 pounds per day—of diets of families of employed city workers spending different amounts for food, 1934-37.



When food expenditures were as low as \$1.25 to \$1.87 a person a week, diets were rather restricted. With more money to spend for food, the nutritive content of diets increased.

Families in North Atlantic cities may be taken as an example. The following comparison shows the nutritive values per nutrition-requirement unit for diets costing \$1.25 to \$1.87 a person a week and for those costing \$2.50 to \$3.12:

	\$1.25-\$1.87 a week	\$2.50-\$3.12 a week
Energy value.....calories.....	2, 530	3, 320
Protein.....grams.....	64	88
Calcium.....do.....	0. 44	0. 65
Phosphorus.....do.....	1. 07	1. 46
Iron.....milligrams.....	11. 30	15. 40
Vitamin A value.....International Units.....	2, 100	3, 400
Vitamin B ₁do.....	340	500
Ascorbic acid (vitamin C).....milligrams.....	41	70
Riboflavin (vitamin G).....Sherman units.....	470	700
Pellagra-preventive value.....percent of minimum.....	120	190

Individual families, however, varied widely from the prevailing patterns of nutritive values in relation to expenditure. For example, some families selected diets furnishing only 45 grams of protein per nutrition-requirement unit a day at an outlay of \$1.88 a person a week for food; on the other hand, for this sum half of the families obtained diets furnishing 70 grams or more per nutrition-requirement unit a day. Or, to take a more striking illustration, some families spent as much as \$4.50 for food a person a week without obtaining 0.45 gram of calcium a day per requirement unit. On the other hand, half of the families spending \$3 a person a week succeeded in getting 0.70 gram or more of calcium per requirement unit daily.

Diets may be classified as good, fair, or poor according to their nutritive content. In recent studies made by the Bureau of Home Economics, they have been designated good or fair if the food materials (uncooked) furnished per nutrition-requirement unit at least the quantities of nutrients shown in table 3. Diets were classed as poor, in need of improvement, if per nutrition-requirement unit the raw foods provided less of any one nutrient than the quantity shown for a fair diet.

TABLE 3.—Specifications for diets rated good and fair: daily allowances of certain important nutrients per day for a 154-pound moderately active man

Nutrient	Good diets	Fair diets	Nutrient	Good diets	Fair diets
Protein.....grams.....	67	45	Vitamin A		
Calcium.....do.....	0. 65	0. 45	International Units.....	6, 000	3, 000
Phosphorus.....do.....	1. 32	. 88	Vitamin B ₁do.....	500	250
Iron.....milligrams.....	15	10	Ascorbic acid.....milligrams.....	75	37
			Riboflavin		
			Sherman units.....	600	300

Table 12 (p. 320), gives the specifications for a good diet in greater detail—that is, for persons of both sexes and various ages.

Poor diets are seldom deficient in only one nutrient. But in this study of the diets of families of city wage earners, relative shortages of some nutrients were encountered more frequently than others.

Less than 2 percent of the employed white workers studied are believed to have diets furnishing less than 45 grams of protein per requirement unit daily—the average minimum below which the diet is classed as poor. About 5 percent had diets furnishing less than 10 milligrams of iron per unit per day; about 16 percent, less than 0.45 gram of calcium; and about 40 percent, fewer than 3,000 International Units of vitamin A.⁹

In the studies just cited, diets of families of employed workers in cities were practically always found to be in definite need of improvement with respect to one or more nutrients when families spent for food less than \$1.25 (1936 price levels) a food-expenditure unit a week. Farm diets¹⁰ were poor when families had food valued at less than \$0.80 a unit a week. (The monetary value of farm diets is lower because home-produced food was valued at prices that were less than those found in city retail stores.) Five percent of the non-relief city, village, and farm families were found to have food valued at less than these amounts. This does not mean, however, that only 5 percent had poor diets. Even some of the relatively well-to-do families spent far too little for food to buy adequate diets.

For village and city families¹⁰ the chances for better diets increased with rising per capita expenditures for food. This was due chiefly to the purchase of more liberal quantities of milk, meat, eggs, leafy green vegetables, and fruits. About 10 percent of the diets classed as good were actually purchased by city and village families for less than \$2.50 a person a week. This amount may perhaps be taken as a reasonable yardstick of the minimum cost of a good diet. Although 65 percent of city and village families were spending \$2.50 or more, far too few bought diets that could be rated as good from the standpoint of nutrition. A fairly large proportion bought diets rated fair. The others, a too large number, bought diets that had to be classed as poor. It is clear, therefore, that expenditures for food are not the only factor influencing nutritive adequacy of diets. Knowledge of food values is also essential.

A larger proportion of farm families than city families were found to have fair or good diets, thanks to the farm-furnished protective foods. In every region families living on farms tend to rank first in the proportion having good diets. Those in metropolises, large cities, and middle-sized cities rank second. Village families fare worst of all. This parallels the finding of Dorn (279) that the number of cases of illness per 1,000 person-years of exposure was greatest in village communities and smallest in the open country.

The chief difference between good diets and average diets is in the quantities of protective foods. For the country as a whole, it is esti-

⁹ An idea of the general level of nutritive content of diets can be obtained by leaving out the poorest one-fourth and the best one-fourth. The middle 50 percent of the diets of white families included in this study provided the following quantities of nutrients per requirement-unit per day:

Protein.....	grams.....	70-95
Calcium.....	do.....	0.50-0.83
Iron.....	milligrams.....	14-17
Vitamin A value.....	International Units.....	2,000-4,500
Vitamin B ₁	do.....	400-600
Ascorbic acid (vitamin C).....	milligrams.....	50-100
Riboflavin (vitamin G).....	Sherman units.....	550-900

These diets appear to have been least well fortified in vitamin A value and in calcium, and best fortified in protein.

¹⁰ Unpublished data, Bureau of Home Economics.

mated that freely chosen diets rated as good probably include 20 percent more milk than do customary diets. They also include 15 percent more butter, 35 percent more eggs, 70 percent more tomatoes and citrus fruit, and about 100 percent more leafy green and yellow vegetables.

The quantities of certain protective foods found in the city, village, and farm diets rated as good are given in table 4, together with quantities included in plans for good diets devised by the Bureau of Home Economics. Each family diet from which these average quantities were derived met the specifications for a good diet described earlier. The low quantities of milk, tomatoes, and citrus fruits appearing in the diets of southern Negro families are balanced to give good diets by the large quantities of leafy, green, and yellow vegetables consumed.

TABLE 4.—*Content of good diets: Average quantities of specified foods per person per year found in diets classed as good, compared with plans for good diets*

Item	Eggs	Milk or its equiv- alent ¹	Butter	Toma- toes, cit- rus fruits	Leafy, green, and yellow ² vegetables	Other vegetables and fruits ³
Family diets graded good:						
Nonrelief families: ⁴	<i>Dozen</i>	<i>Quarts</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>
Farms.....	28	330	23	90	180	285
Villages.....	25	130	18	65	200	295
Small cities.....	35	240	23	175	150	315
Middle-sized cities.....	27	200	26	110	150	305
Large cities.....	32	200	20	140	150	310
Families of employed city workers: ⁵						
White families:						
North Atlantic.....	23	187	18	115	128	174
Pacific.....	24	228	18	296	217	473
East South Central.....	32	273	15	131	166	177
Negro families, South.....	18	114	14	31	263	208
Plans for good diets ⁶	17-30	230-260	20-40	65-120	160-180	130-350

¹ The following are approximately equivalent to the food value of 1 quart of fluid whole milk; (1) 17 ounces of evaporated milk; (2) 1 quart of fluid skim milk and 1½ ounces of butter; (3) 5 ounces of American Cheddar cheese; (4) 4½ ounces of dried whole milk; (5) 3½ ounces of dried skim milk and 1½ ounces of butter.

² Does not include sweetpotatoes.

³ Does not include potatoes, sweetpotatoes, mature dry legumes. Includes fresh fruit equivalent of dried fruits.

⁴ Preliminary unpublished data, Bureau of Home Economics, Consumer Purchases Study.

⁵ Families of employed wage earners spending less than \$3.13 a person a week for food (1104).

⁶ Based on quantities suggested by Bureau of Home Economics for good diets at 3 food-expenditure levels, described in detail in the article, Planning for Good Nutrition, p. 321.

FIFTY-YEAR TRENDS IN FOOD CONSUMPTION

Differences in food habits by regions, especially among urban groups, probably are less apparent now than formerly. Modern city markets offer throughout the year a great variety of foods from which the housewife may choose. Fresh fruits, vegetables, and other perishable foods are rapidly transported in good condition, perhaps thousands of miles from the site of production, or are kept under special storage conditions for weeks beyond the production period. Much variety has been made possible also by commercial canning. In addition, there is a growing assortment of foods preserved by quick freezing, which retain many of the characteristics of fresh products. The effect of these improved facilities and methods for storing, shipping, marketing, and preserving food products has been to eliminate the influence of time and place upon the availability of many foods and

to extend the season for others. As a result, the modern city family can choose from a variety and abundance unheard of 50 years ago.

Trends in the consumption of important groups of food may be seen from the summary given in table 5 of dietary studies made decade by decade among village and city families.

TABLE 5.—*City and village family food: Trends in average per capita consumption per year of specified foods by level of food expenditure, 1885-1937*¹

Level of food expenditure ² and period	Grain products	Meats, fish, poultry	Milk ³ or its equivalent	Eggs	Leafy, green, and yellow vegetables ⁴	Tomatoes, citrus fruits
	<i>Pounds</i>	<i>Pounds</i>	<i>Quarts</i>	<i>Dozen</i>	<i>Pounds</i>	<i>Pounds</i>
\$1.25-\$1.87 a person a week:						
1885-1904.....	294	123	41	12	24	10
1905-14.....	240	124	90	12	31	15
1915-24.....	174	84	101	15	35	38
1925-34.....	152	85	112	12	43	37
1935-37.....	155	85	118	16	53	45
\$1.88-\$2.49 a person a week:						
1885-1904.....	222	169	90	24	29	22
1905-14.....	239	157	90	14	39	46
1915-24.....	178	87	186	18	62	57
1925-34.....	172	104	135	15	70	39
1935-37.....	160	106	150	23	76	75
\$2.50-\$3.12 a person a week:						
1885-1914.....	218	204	84	20	48	59
1915-24.....	204	115	180	26	67	73
1925-34.....	163	129	144	24	83	68
1935-37.....	174	139	191	27	95	98

¹ Based on averages from many scattered family dietary studies, published and unpublished, compiled by the Bureau of Home Economics.

² Adjusted to 1935 levels by use of U. S. Bureau of Labor Statistics index of retail food costs.

³ See table 5, footnote 1.

⁴ Does not include sweet potatoes.

Over the 50-year period a sharp decline took place in the consumption of grain products and meats among families at a comparatively low level of food expenditure (\$1.25 to \$1.87 a person a week, at 1935 retail food-price levels). This decline was also evident for families with average and higher-than-average expenditures, but to a lesser degree. Per capita purchases of grain products before 1915-24 were higher among families with little money for food than among their more affluent neighbors. Today, this is apparently reversed. Among families spending less-than-average amounts for food, meat consumption fell to a low level in 1915-24, and since that period has increased very little. On the other hand, among families spending more-than-average amounts, meat consumption declined relatively less in the decade 1915-24, and since then has increased somewhat.

In general there has been a marked upward trend at each food-expenditure level in the consumption of milk, the green leafy vegetables, and tomatoes and citrus fruits. These are the so-called protective foods that abound in the nutrients often deficient in low-cost diets.

The trends recorded by these dietary studies are corroborated in general by estimates of the per capita disappearance of food in retail markets. One such estimate,¹¹ covering approximately the last two decades, is given in table 6. It shows how the emphasis in consumption has shifted from one food group to another, even though the total

¹¹ Unpublished data, Agricultural Adjustment Administration.

weight of food consumed a person a year has remained fairly constant. These figures indicate a downward trend for meats, grain products, and potatoes, and an upward trend for the protective foods—milk and cream, succulent vegetables, and fruits.

TABLE 6.—*Food sold in retail market: Estimated yearly per capita disappearance of specified foods or groups of foods, by periods, 1920–37*¹

Item	1920–24	1925–29	1930–33	1934–37
	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>
Cereal products ²	229	226	211	196
Potatoes, sweet potatoes.....	178	164	156	157
Sugar and sirup.....	106	118	107	110
Dairy products:				
Milk and cream ³	315	334	337	328
Butter.....	17	17	18	17
Other manufactured.....	23	28	28	32
Fruits:				
Fresh ⁴	179	192	184	189
Dried.....	6	6	5	6
Vegetables ⁵	135	148	154	169
Lean meats and fish.....	138	133	129	126
Eggs.....	28	32	32	30
Beans, peas, nuts.....	11	14	16	16
Fats other than butter ⁶	44	47	47	45

¹ Data from Program Planning Division, Agricultural Adjustment Administration, Dec. 15, 1938.

² Wheat, rye, buckwheat flour, corn meal and corn flour, rice, and cereal breakfast foods; grain for liquors, malt, and cornstarch excluded.

³ Whole milk and cream in terms of whole milk.

⁴ Fresh and canned fruit in terms of fresh fruit, on basis of total population; consumption of watermelons and cantaloups per urban inhabitant.

⁵ Fresh and canned vegetables in terms of fresh, per urban inhabitant.

⁶ Lard and lard compounds, vegetable oils, margarine, bacon, and salt pork.

Figure 5, based on year-by-year estimates (1159) covering a longer period than table 6, 1910–31, shows similar trends for certain foods. There has been a phenomenal rise in the consumption of citrus fruits, a marked upward trend in the consumption of succulent vegetables, and a moderate but steady increase in milk consumption. Among foods high in energy value, sugar has risen rapidly, while grain products and potatoes show a marked decline.

ROOM FOR IMPROVEMENT IN DIETS

If the total quantities of food produced in this country were distributed in proportion to need, a fairly satisfactory diet would be provided for every individual. As it is, the national dietary level appears high because of the high consumption of certain foods by some families. Urban families with limited funds for food and rural families with restricted opportunities for home production tend to lay emphasis on the kinds of food that satisfy obvious hunger cheaply and to neglect those that satisfy also the "hidden nutritional hungers"—for vitamins and minerals—described by science.

Many diets in this country are in need of improvement. For some families this reflects a lack of appreciation of the relation of diet to buoyant health, physical efficiency, and long life. For others it indicates that the family's knowledge of food values in relation to food prices is inadequate for practical application to the planning of everyday meals. For still others it implies insufficient purchasing power.

Modification of present-day diets so as to improve their nutritive qualities without adding much to their cost is chiefly a matter of put-

ting considerably more emphasis upon milk in its less expensive forms and upon the cheaper leafy and green-colored vegetables. Many

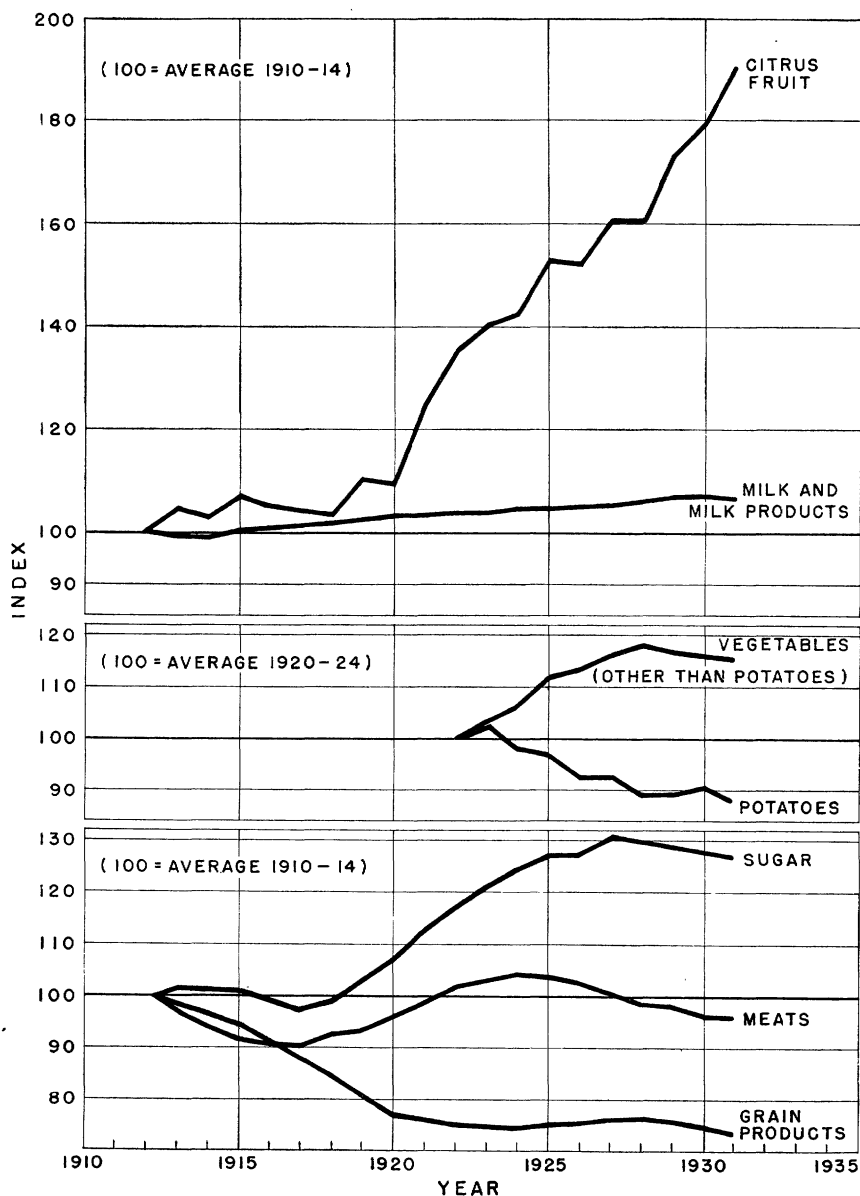


Figure 5.—How the Nation's food habits have changed. This chart shows trends in per capita consumption of specified groups of food, based on 5-year moving averages.

varieties and forms of these foods yield excellent returns in nutrition for their cost.

APPENDIX

TABLE 7.—*Farm-furnished food for home use: The average supply for a household ¹ for a year in areas representing different types of farming, 1935-36 ²*

Selected counties in —	Type of farming represented	Families included	Average quantities or money value of food produced for home consumption								
			Milk	Eggs	Poultry	Pork	Other meat	Potatoes	Other food from garden	Fruits	Other food ³
		No.	Gal.	Doz.	No.	Lb.	Lb.	Bu.	Dol.	Dol.	Dol.
Vermont.....	Dairy.....	513	326	124	17	139	112	42	43	4	7
Ohio.....	General.....	814	212	146	36	440	155	23	38	15	5
Illinois.....	Corn or cash grain.....	838	248	160	68	637	148	12	22	4	(⁴)
Kansas.....	Wheat or cash grain.....	557	264	176	97	328	159	2	10	(⁴)	(⁴)
Colorado, Montana, South Dakota.....	Range livestock and cash grain.....	794	281	178	55	290	296	19	43	7	3
Oregon.....	General and fruit.....	1,611	251	138	35	195	119	14	45	23	1
Southern California.....	Fruit and nut.....	1,080	93	74	20	8	11	1	6	11	(⁴)
South Carolina:											
White.....	Cotton and tobacco.....	2,048	287	113	64	659	12	7	51	8	23
Negro.....	do.....	478	158	59	36	363	5	4	32	4	30

¹ Nonrelief families of farm operators, including husband and wife, both native-born, 0 to 8 other family members, and household and farm help.

² From unpublished data, Bureau of Home Economics, Consumer Purchases Study.

³ Includes sirup, molasses, honey, grain products, and cowpeas and other foods grown in fields.

⁴ \$0.50 or less.

TABLE 8.—*Farm-family ¹ food: The average supply for a household for a week, by region and income class, summer 1936 ²*

Region and income ³ class (dollars)	Eggs	Fluid milk	Evaporated condensed milk	Cheese	Cream, ice cream	Fats	Meats, ⁴ poultry, fish	Flours, ⁵ cereals
	Doz.	Qt.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
Northeast:								
500-999.....	2.2	15.6	0.1	0.5	2.3	3.3	8.0	11.4
1,000-1,499.....	2.6	16.6	0	.6	2.5	3.9	10.9	12.9
1,500-1,999.....	2.8	16.5	.1	1.0	2.8	3.6	11.7	14.0
2,000-2,999.....	2.7	17.3	.1	1.0	2.5	4.0	14.1	14.8
Southeast:			(⁶)					
500-999.....	1.4	20.8		.1	.6	5.2	9.4	24.4
1,000-1,499.....	1.7	19.7	.1	.4	.6	5.5	12.3	27.0
1,500-1,999.....	2.1	23.9	.1	.4	.9	6.0	14.6	24.0
2,000-2,999.....	2.9	23.6	.1	.8	.5	5.8	14.3	25.7

Region and income ³ class (dollars)	Sugar	Other sweets	Potatoes, sweet-potatoes	Other vegetables			Fruits		
				Fresh	Canned	Dried	Fresh	Canned	Dried
	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.	Lb.
Northeast:									
500-999.....	5.6	1.8	17.1	6.7	3.3	0.3	7.5	1.5	0.5
1,000-1,499.....	6.6	2.2	20.6	7.9	3.0	.6	9.1	1.8	.4
1,500-1,999.....	6.8	2.6	22.5	10.0	3.1	.3	11.8	2.3	.6
2,000-2,999.....	7.6	3.0	23.8	14.0	3.1	.9	11.0	2.9	.4
Southeast:									
500-999.....	4.8	1.9	4.7	16.1	.3	.2	15.0	.3	.1
1,000-1,499.....	5.1	3.0	6.0	15.2	.9	.2	17.2	.6	.2
1,500-1,999.....	5.5	2.1	4.7	19.1	.9	.6	8.9	1.4	.3
2,000-2,999.....	5.8	1.7	8.8	20.7	1.0	.2	11.2	.3	.1

¹ White nonrelief families of farm operators, including husband and wife, both native-born, and 1 or 2 children under 16 years of age.

² From preliminary unpublished data, Bureau of Home Economics, Consumer Purchases Study.

³ Money and nonmoney.

⁴ Includes bacon and salt pork.

⁵ Two-thirds of the weight of bread and other baked goods has been added to the weight of the flour, meals, and other cereals.

⁶ 0.05 pound or less.

TABLE 9.—*City- and village-family food: Average supply for a week for two types of families,¹ by income, small East North Central cities, spring-summer-fall, 1936²*

Degree of urbanization, type of family, and income (dollars)	Eggs	Milk or its equivalent ³	Fats	Meats, ⁴ poultry, fish	Flour, ⁵ meals, cereal	Sugar	Other sweets
Small cities:							
Families of husband and wife with incomes of—	<i>Dozen</i>	<i>Quarts</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>
500-999.....	1.2	5.7	2.5	5.2	6.2	3.0	0.6
1,000-1,499.....	1.5	8.5	2.5	7.4	7.2	3.8	.7
1,500-1,999.....	1.4	7.2	2.0	6.2	5.8	3.6	.8
2,000-2,999.....	1.8	9.5	2.7	9.2	6.1	4.0	.9
Families of husband, wife, and 1 or 2 children under 16 years, with incomes of—							
500-999.....	1.4	9.3	2.6	5.9	8.0	4.0	.8
1,000-1,499.....	1.6	11.7	2.6	7.3	8.1	4.3	1.0
1,500-1,999.....	1.6	11.7	3.1	7.9	8.6	4.5	1.2
2,000-2,999.....	1.7	11.6	3.2	10.1	7.8	4.3	1.0
Villages:							
Families of husband and wife with incomes of—							
500-999.....	1.3	7.5	2.2	5.6	6.8	3.1	.8
1,000-1,499.....	1.6	8.6	2.4	7.4	6.7	2.9	1.2
1,500-1,999.....	1.6	9.7	2.6	7.6	7.1	3.2	1.4
2,000-2,999.....	1.6	9.8	2.7	8.7	7.8	3.9	1.0
Families of husband, wife, and 1 or 2 children under 16 years, with incomes of—							
500-999.....	1.5	10.2	2.9	6.4	10.0	3.8	1.5
1,000-1,499.....	1.7	12.3	3.0	8.0	10.0	4.0	1.4
1,500-1,999.....	1.7	13.4	3.0	9.6	9.9	3.8	1.4
2,000-2,999.....	1.9	15.8	3.1	9.9	11.0	4.2	1.7

Degree of urbanization, type of family, and income (dollars)	Potatoes, sweet-potatoes	Other vegetables			Fruits		
		Fresh	Canned	Dried	Fresh	Canned	Dried
Small cities:							
Families of husband and wife with incomes of—	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>	<i>Pounds</i>
500-999.....	7.2	2.7	2.4	0.9	5.1	0.7	0.4
1,000-1,499.....	9.0	5.0	2.2	.5	8.7	.8	.3
1,500-1,999.....	7.3	4.1	2.6	.4	10.2	1.1	.3
2,000-2,999.....	7.5	5.9	1.6	.4	10.8	.8	.3
Families of husband, wife, and 1 or 2 children under 16 years, with incomes of—							
500-999.....	10.5	4.2	2.9	.7	8.5	.6	.4
1,000-1,499.....	10.9	5.1	3.1	.5	10.3	.9	.4
1,500-1,999.....	10.8	6.6	3.5	.3	13.8	1.2	.5
2,000-2,999.....	9.8	7.6	2.7	.3	16.4	1.7	.9
Villages:							
Families of husband and wife with incomes of—							
500-999.....	9.4	3.3	2.6	.4	5.4	1.1	.3
1,000-1,499.....	7.7	5.5	2.3	.3	8.0	1.2	.3
1,500-1,999.....	9.1	7.3	2.8	.2	10.5	1.9	.5
2,000-2,999.....	8.8	5.6	2.7	.2	8.7	1.4	.4
Families of husband, wife, and 1 or 2 children under 16 years, with incomes of—							
500-999.....	12.6	4.5	3.0	.5	6.4	1.3	.4
1,000-1,499.....	12.5	5.8	3.0	.4	8.2	1.6	.4
1,500-1,999.....	11.0	7.6	3.6	.3	11.0	1.9	.4
2,000-2,999.....	11.0	7.9	3.1	.2	12.6	2.3	.5

¹ White nonrelief families.² From preliminary unpublished data, Bureau of Home Economics, Consumer Purchases Study.³ The following are approximately equivalent to the food value of 1 quart of fluid whole milk: (1) 17 ounces of evaporated milk; (2) 1 quart of fluid skim milk and 1½ ounces of butter; (3) 5 ounces of American Cheddar cheese; (4) 4½ ounces of dried whole milk; (5) 3½ ounces of dried skim milk and 1½ ounces of butter.⁴ See table 8, footnote 4.⁵ See table 8, footnote 5.

TABLE 10.—*City-family*¹ food: Average per capita consumption in a year, by level of food expenditures, North Atlantic cities, 1931-37²

Food items	Consumption ³ by families spending for food per capita per week averages ⁴ of about—				
	\$1.60	\$2.20	\$2.80	\$3.40	\$4.00
Eggs.....dozen.....	13	19	23	28	36
Milk, whole, skim, buttermilk.....quarts.....	94	111	132	136	162
Milk, evaporated, condensed.....pounds.....	15	11	16	15	10
Cheese.....do.....	5	7	8	9	11
Cream, ice cream.....do.....	2	3	5	10	14
Total milk, fluids-not-fat equivalent ⁵quarts.....	123	116	176	181	212
Butter.....pounds.....	14	19	23	25	31
Other table fats.....do.....	4	1	1	1	(⁶)
Cooking or salad oils, dressings.....do.....	4	5	7	9	8
Lard, other cooking fats.....do.....	5	7	9	7	8
Bacon, salt pork, suet.....do.....	3	4	5	6	7
Total fats.....do.....	30	36	45	48	54
Beef, veal.....do.....	41	48	64	61	75
Mutton, lamb.....do.....	6	6	12	19	26
Pork (exclusive of bacon and salt pork).....do.....	15	21	30	33	48
Miscellaneous meat products.....do.....	8	10	12	11	14
Poultry.....do.....	4	11	16	26	28
Fish, other sea foods.....do.....	13	18	23	28	30
Total meat, poultry, fish.....do.....	87	114	157	178	221
Sugar.....do.....	46	52	59	63	72
Sirups, jellies, etc.....do.....	5	8	8	9	11
Bread, rolls.....do.....	116	121	128	139	145
Other baked goods.....do.....	16	26	35	47	45
Ready-to-eat cereals.....do.....	4	6	6	6	9
Other breakfast cereals.....do.....	26	21	22	23	24
Flours, meals.....do.....	26	29	32	26	35
Total flour equivalent ⁷do.....	145	155	169	180	196
Potatoes, sweet potatoes.....do.....	133	150	170	178	181
Dried legumes, cooked or canned.....do.....	6	7	9	8	6
Dried legumes and nuts.....do.....	8	7	9	9	8
Dried fruits.....do.....	3	4	6	7	12
Tomatoes.....do.....	19	25	34	38	38
Citrus fruits.....do.....	16	34	51	66	90
Leafy, green, and yellow vegetables ⁸do.....	47	60	83	92	130
Other vegetables ⁸do.....	29	40	56	80	72
Other fruits ⁸do.....	50	86	105	138	162

¹ Families of employed wage earners and low-salaried clerical workers.² Adapted from U. S. Department of Agriculture Circular 507 (1104).³ Based on records for 1 week.⁴ Representative of expenditure ranges as follows: \$1.25-\$1.87; \$1.88-\$2.49; \$2.50-\$3.12; \$3.13-\$3.74; \$3.75-\$4.37. Adjusted to 1935 levels by use of U. S. Bureau of Labor Statistics index of retail food costs.⁵ See table 9, footnote 3.⁶ 0.5 pound or less.⁷ See table 8, footnote 5.⁸ Fresh and canned.

TABLE 11.—*City-family*¹ food: Average per capita consumption in a year in five region-color groups, 1934-37²

Food items	Consumption ³ by—				
	White families in cities of—				Negro families in southern cities
	North Atlantic region	East North Central region	Pacific region	East South Central region	
Eggs.....dozen.....	22	23	27	22	10
Milk, whole, skim, buttermilk.....quarts.....	122	109	126	98	30
Milk, evaporated, condensed.....pounds.....	14	13	24	21	11
Cheese.....do.....	8	9	11	5	2
Cream, ice cream.....do.....	5	5	11	1	1
Total milk, fluids-not-fat equivalent ⁴quarts.....	162	144	188	138	51
Butter.....pounds.....	21	15	22	8	7
Other table fats.....do.....	1	6	5	7	3
Cooking or salad oils, dressings.....do.....	7	4	10	6	2
Lard, other cooking fats.....do.....	7	14	10	25	33
Bacon, salt pork, suet.....do.....	4	10	7	16	25
Total fats.....do.....	40	49	54	62	70
Beef, veal.....do.....	54	46	58	36	34
Mutton, lamb.....do.....	11	(⁵)	16	1	1
Pork (exclusive of bacon and salt pork).....do.....	23	29	10	12	22
Miscellaneous meat products.....do.....	14	38	13	14	16
Poultry.....do.....	16	10	12	9	13
Fish, other sea foods.....do.....	21	9	19	11	40
Total meat, poultry, fish.....do.....	139	132	128	83	126
Sugar.....do.....	56	49	64	58	52
Sirups, jellies, etc.....do.....	8	13	16	19	14
Bread, rolls.....do.....	129	117	105	62	26
Other baked goods.....do.....	31	39	28	13	3
Ready-to-eat cereals.....do.....	6	7	6	4	(⁵)
Corn meal.....do.....	1	4	2	30	54
Rice.....do.....	4	3	3	4	15
Flour.....do.....	28	40	42	75	94
Other cereal products.....do.....	18	13	18	11	14
Total flour equivalent ⁶do.....	164	170	160	175	196
Potatoes, sweetpotatoes.....do.....	157	138	139	100	91
Mature legumes, cooked or canned.....do.....	8	7	4	5	2
Mature dry legumes and nuts.....do.....	8	11	11	15	16
Dried fruits.....do.....	5	4	9	4	2
Tomatoes.....do.....	28	24	41	38	14
Citrus fruits.....do.....	43	39	86	26	6
Leafy, green, and yellow vegetables.....do.....	74	60	122	81	91
Other vegetables.....do.....	53	54	78	49	30
Other fruits.....do.....	99	99	180	89	54

¹ Families of employed wage earners and low-salaried clerical workers.² Adapted from U. S. Department of Agriculture Circular 507 (1104).³ Based on records for 1 week.⁴ See table 9, footnote 3.⁵ 0.5 pound or less.⁶ See table 8, footnote 5.⁷ Fresh and canned.

TABLE 12.—*Specifications for diets rated good; daily allowances of calories and certain important nutrients*

Sex, age, and activity of individual	Energy	Protein	Calcium	Phosphorus	Iron	Vitamin A value ¹	Vitamin B ₁	Vitamin C	Riboflavin
	<i>Calories</i>	<i>Grams</i>	<i>Grams</i>	<i>Grams</i>	<i>Milligrams</i>	<i>International Units</i>	<i>International Units</i>	<i>International Units</i>	<i>Sherman units</i>
Men, 20 years and over:									
Moderately active work.....	3,000	67	0.68	1.32	15	6,000	500	1,500	600
Very active work.....	4,500	67	.68	1.32	15	6,000	500	1,500	600
Light work.....	2,700	67	.68	1.32	15	6,000	500	1,500	600
Sedentary work.....	2,400	67	.68	1.32	15	6,000	500	1,500	600
Women, 20 years and over:									
Moderately active work.....	2,500	67	.88	1.32	15	6,000	500	1,500	600
Very active work.....	3,000	67	.88	1.32	15	6,000	500	1,500	600
Light work.....	2,300	67	.88	1.32	15	6,000	500	1,500	600
Sedentary work.....	2,100	67	.88	1.32	15	6,000	500	1,500	600
Boys:									
16-19 years.....	3,600	75	1.00	1.32	15	6,000	600	1,800	600
13-15 years.....	3,000	75	1.00	1.32	15	6,000	500	1,500	600
11-12 years.....	2,500	75	1.00	1.20	13	6,000	420	1,350	600
9-10 years.....	2,400	75	1.00	1.20	12	5,400	400	1,200	540
7-8 years.....	2,100	65	1.00	1.00	11	5,400	350	1,000	540
4-6 years.....	1,500	55	1.00	1.00	8	4,500	250	1,000	450
Girls:									
14-19 years.....	2,500	75	1.00	1.20	13	6,000	420	1,350	600
11-13 years.....	2,400	75	1.00	1.20	12	5,400	400	1,200	540
8-10 years.....	2,100	65	1.00	1.00	11	5,400	350	1,000	540
4-7 years.....	1,500	55	1.00	1.00	8	4,500	250	1,000	450
Children:									
2-3 years.....	1,200	45	1.00	1.00	6	4,500	200	1,000	450
Under 2 years.....	900	45	1.00	1.00	6	4,500	200	1,000	450

¹ From natural foods, exclusive of vitamin A concentrates.